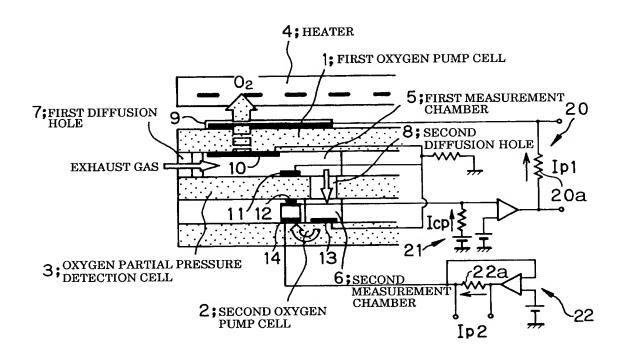
Yoshinori INOUE et al. Q76324 NOx MEASUREMENT APPARATUS Filing Date: June 27, 2003 Abraham J. Rosner 202-663-7460 Page 1 of 5

FIG. 1(A)

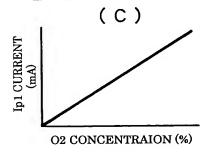


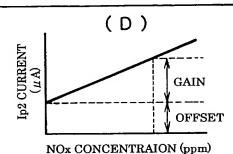
Yoshinori INOUE et al. Q76324 NOx MEASUREMENT APPARATUS Filing Date: June 27, 2003 Abraham J. Rosner 202-663-7460 Page 2 of 5

FIG. 1(B)

- 1) EXHAUST GAS ENTERS THE FIRST MEASUREMENT CHAMBER THROUGH THE FIRST DIFFUSION HOLE.
- 2) OXYGEN WITHIN EXHAUST GAS IS PUMPED OUT BY THE FIRST OXYGEN PUMP CELL. AT THAT TIME, THE OXYGEN PARTIAL PRESSURE WITHIN THE FIRST MEASUREMENT CHAMBER IS CONTROLLED BY A SIGNAL FROM THE OXYGEN PARTIAL PRESSURE DETECTION CELL.
- AFTER HAVING BEEN CONTROLLED IN THE FIRST

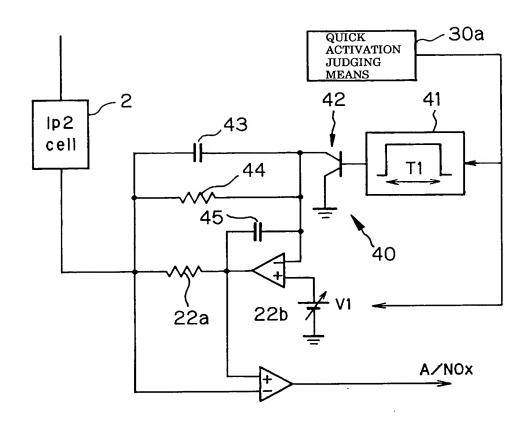
 MEASUREMENT CHAMBER TO CONSTANT OXYGEN PARTIAL
 PRESSURE, EXHAUST GAS ENTERS THE SECOND
 MEASUREMENT CHAMBER THROUGH THE SECOND
 DIFFUSION HOLE.
- 4) NOx IN THE SECOND MEASUREMENT CHAMBER IS DECOMPOSED TO N2 AND O2, AND OXYGEN IS PUMPED OUT BY THE SECOND OXYGEN PUMP CELL.
- 5) AT THAT TIME, PUMP CURRENT Ip2 FLOWS IN PROPORTION TO NOx CONCENTRATION OF EXHAUST GAS.





Yoshinori INOUE et al. Q76324 NOx MEASUREMENT APPARATUS Filing Date: June 27, 2003 Abraham J. Rosner 202-663-7460 Page 3 of 5

FIG. 2



Yoshinori INOUE et al. Q76324 NOx MEASUREMENT APPARATUS

Filing Date: June 27, 2003 Abraham J. Rosner: 202-663-7460

Page 4 of 5

FIG. 3 (A)

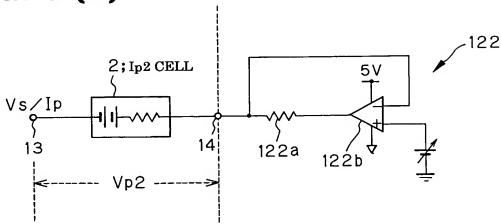
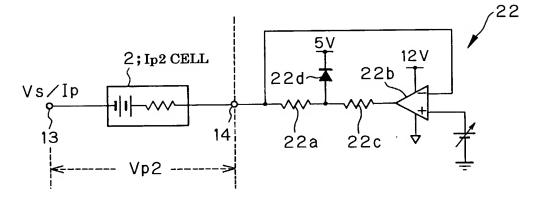


FIG. 3 (B)



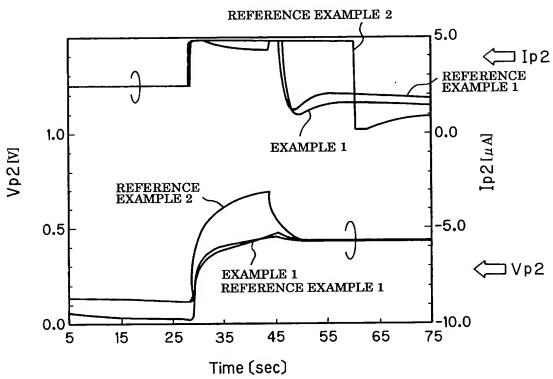
Yoshinori INOUE et al. Q76324 NOx MEASUREMENT APPARATUS

Filing Date: June 27, 2003

Abraham J. Rosner: 202-663-7460

Page 5 of 5

FIG. 4



RESULTS OF COMPARISON OF Ip2 AND Vp2 WAVEFORMS